Athens, where 2.32% of strains were resistant to ampicillin-ticarcillin-piperacillin-cephalothin-ceftazidime-cefotaxime (extended spectrum β-lactamase).
Conclusions: Although there no major differences in the types of resistant phenotypes in both areas, it is obvious that in area of Athens the percentage of resistant strains to b-lactam antibiotics is higher. This observation and the presence of the multiresistant phenotype, due probably to the production of extended spectrum b-lactamases, reflects the over use of these antibiotics in the area of Athens.

MoP133 Clinical and laboratory aspects of childhood shigeliosis

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Objectives: To evaluate the epidemiology and clinical presentation of shigellosis and to analyze the distribution and the antibiotic resistance pattern of *Shigella sp.*
Methods: Epidemiological, clinical and laboratory data were retrospectively i analyzed in 39 cases referred to "Thriassio" General Hospital over a 2 years period (1997–1999). All the isolates were identified, serogrouped and serotyped using conventional methods. Minimum Inhibitory Concentrations (MICs) of several antibiotics against clinical isolates were determined by using Sensititre fluorogenic-substrate system.
Results: The incidence of shigellosis was highest during the trimester August to October, for children 1–5 years old but equal for both sexes. Two children were less than six months old. Spread within families was found in two cases. The most common symptoms recorded were:hyperpyrexia, abdominal cramps, vomiting mucoid bloody diarrhea and dehydration. In two children convulsions were present, in one septicaemia while another one developed pneumonia *S. flexneri* was the most common serogroup isolated (84.6%) with serotype 2 being the commonest (52.1%). *S. sonnei* accounted for (15.4%) with serotype 2 being the commonest (90.0%). All strains were susceptible to aminoglycosides, 2nd and 3rd generation cephalosporins, aztreonam and quinolones. 61.9% of the strains were resistant to ampicillin (MIC50, 90 > 32 μg/ml), 39% to co-trimoxazol (MIC50, 90 > 4/76) while 60% of the strains were resistant to both drugs. The commonest resistance pattern was ampicillin/co-trimoxazole/chloramphenicol/tetracyclin.
Conclusions: 1. *S. flexeneri* biotype 2 was the predominant isolate 2. Resistance trends regarding ampicillin and co-trimoxazole, both being the drugs of choice, mandate the consideration of other therapeutic options. 3. Prevention of disease by reduction of transmission through improved hygienic conditions will remain the mayor statege for reducing the incidence of childhood shigellosis.

MoP134 Extraintestinal salmonelosis

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Objective: To explore the profile and frequency of non-typhoid extra-intestinal salmoneloses in the regional General Hospital Uzice.
Methods: We retrospectively surveyed (1972–1999) microbiology records of 76 patients, with primary non-typhoid *Salmonella* infections who didn't have AIDS. Our strains were obtained from blood, cerebro-spinal fluid, bums, wounds and sputa. We compared the number of these isolates with total number of *Salmonella* isolates.
Results: Although we found 26 serotypes of all *Salmonella* isolates, only 7 serotypes were recovered from non-faecal and non-urinal material. *Salmonella wien* was the most prevalent isolate (62.5%), then *Salmonella enteritidis* (13.9%) and *Salmonella abony* (12.5%). In our hospital, the average number of *Salmonella* isolates per year remains constant (109), but the number of extraintestinal isolates decreases, so in the last 10 years their total number was 5 and *Salmonella enteritidis* is prevailing (4 isolates). Children and neonates were 38.1% of studied populaton.
Conclusions: Our findings strongly support the fact that *Salmonella wien* is known to have a propensity for causing extra-intestinal infections. But, nowadays it's rare in faecal and non-faecal isolates and *Salmonella enteritidis* prevails. Since *Salmonella enteritidis* is moderately invasive serovar, the total number of extraintestinal isolates is decreasing.

MoP135 Dierent PCR-based fingerprints exhibit significantly higher intra-serotype genetic similarity for *Proteus mirabilis* strains

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Objectives: *P. mirabilis* is known etiologic factor for numerous urinary tract diseases. Few PCR-based differentiation methods of *Proteus* strains have been already evaluated. Some of them allow distinguishing species of the genus.
Methods: PCR fingerprint differentiation based on repetitive and microsatelite sequences
Results: Four different PCR tests were applied for investigation of 38 *P. mirabilis* inter-strain diversity. Two of them were based on repetitive sequence family members (ERIC, BOXA1R), further on microsatellites (GACA)4, (GTG)5. Out of investigated *P. mirabilis* strains 15 were representing different serotypes. The 23 of them were representing few common serotypes: O3 (6 strains), O10, O24 (3 strains each), O5, O7, O13, O14, O23 (2 strains each). After computer analysis of obtained PCR fingerprints most of them (O3, O7, O10, O23 and O24 serotype representatives), independently on the mathematical method applied, were most often clustered together. The similar strain gathering repeated in four independent tests aimed at non-related target sequences each, suggests rather well stabilised *P. miabilis* genome structure. Therefore observed inter-strain differences are expected to be conservative. Hence, also more detailed and strain-sensitive differentiation should be more conservative and less dependent on selected primer type.
Conclusion: In particular, we suggest that in at least some cases, *P. mirabilis* serotypes, might be differentiated on the basis of greater number of different sequence types non-related directly to *P. mirabilis* antigenic properties.

P:4/3 – Other bacterial infections - I

TuP35 Etiology of nosocomial infections in post operated wounds and antibiotic resistence of their agents

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Objectives: We aimed to describe isolation, identification and antibiotic resistence of microbial nosocomial infections in post-operated wounds.
Methods: During August 1997– November 1998. 617 post-operated infected wounds of patients in surgical wards of University Center "Mother TEREZA" of Tirana, have been examinated in our laboratory. Materials were taken with sterile cotton swab (dry or wet in bujon) and were cultured in Petri dishes with blood agar and Endo media. Identification of different microbial agents such as *Staph. aureus, Staph. epidermidis, Pseudomonas aeruginosa* etc. has been based in the morfological characteristics of their colonies in culture media, microscopic examination and biochemical features. Antibiotic resistance has been performed with the method of disc diffusion.
Results: We isolated 201 different microbial strains from 617 post-operated infected wounds. Among them there were: *Escherichia coli* 52 cases (25.87%), *Pseudomonas aeruginosa* 26 cases (12.93%), *Proteus* spp. (10.44%), *Klebsiella* 10 cases (4.97%), *Enterobacter* spp 8 cases (3.98%), *Citrobacter* spp 5 cases (2.48%), *Staph. epidermidis* 43 cases (21.39%), *Staph. aureus* 36 cases (17.91%). Many of our strains were resistent to Amoxicylline, Ampicylline, Cefalexine, Gentamycine, Augmentine, Cloramphenicol, etc. We would like underline that a multiple resistence has been verified to a number of microbial agents like *E. coli, Proteus spp. Staph. epidermidis, Staph. aureus.*
Conclusions: The most important etiologic agents of infection in post-operated wounds have been Gram negative bacteria 60.69%. Three strains more frequent found were *Escherichia coli* 25.87%, *Staph. epidermidis* 21.39%, and *Staph. aureus* 17.91%. Antibiotic resistence was high with a multiple resistence for many of strains.

TuP36 Bacterial meningitis in elderly patients: The spectrum of clinical and epidemiological characteristics

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Objective: of the study: To determine the spectrum of bacterial meningitis in patients aged 65 years or older compared with that of younger adults.
Patients and Methods: a patient was considered eligible for the study when he was 65 years or older and had a diagnosis of bacterial meningitis. Bacterial meningitis was diagnosed when a pathogenic bacterium was isolated from cerebrospinal fluid culture or when there was a positive blood culture together with CSF cyto-biochemical parameters consistent with acute pyogenic meningitis. Statistical analyses were performed with the StatView 4.5 statistical package.
Results: From 1982 to 1997, 389 adult patients with bacterial meningitis. One hundred and two patients (26.2%) were aged 65 years or more. The most frequent etiologies were: pneumococcal (31.4%), meningococcal (19.6%), unknown origin (18.6%), gram-negative bacilli (12.7%), listerial (8.9%), gram-positive cocci (5.9%), and influenzal (2.9%). Elderly patients had more frequently co-morbid conditions ($p = .0001$) and more frequently focal neurologic signs on admission ($p = .008$) and had less frequently headache ($p = .004$), nausea/vomiting ($p = .0006$), a normal level of consciousness ($p = .0004$), and meningeal signs ($p = .0001$). Bacteremia was significantly more frequent in elderly patients ($p = .05$), as also were neurological ($p = .0009$), and extraneurological complications ($p = .01$). The case-fatality rate was 11.5% for young adults and 31.4% for the elderly ($p = .0001$).
Conclusions: The most frequent cause of bacterial meningitis in elderly patients is Streptococcus pneumoniae. Elderly patients present more severe and less symptomatic disease and had a higher case-fatality rate.

TuP37 PCR typing as a tool to determine the source of sepsis

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Objectives: To compare the clinically determined source of sepsis with arbitrarily primed PCR typing results and to determine the indications for PCR.
Methods: In a 4 month period all isolates from 113 episodes of positive blood cultures were collected and isolates from other foci, if available. Routine bacteriological techniques and PCR typing were carried out. On clinical grounds sepsis was determined as secondary or primary in origin; if primary: as proven catheter related or unknown in origin. Nine episodes considered as not significant were also included.
Results

Clinical	PCR linked strains	PCR different strains	PCR linked and different strains
Secondary sepsis N = 31	N = 30*	N = 1 (CNS)	
Primary catheter related sepsis N = 14	N = 13**	N = 1 (CNS)	
Primary focus? N = 59	N = 49***	N = 6 (CNS)	N = 4 (CNS)
Not significant N = 9	N = 2****	N = 7 (CNS)	
Total = 113	94	15	4

*Enterobacteriaceae (N = 22), Pseudomonadaceae (N = 2), Gram + cocci (N = 6), **Enterobacteriaceae (N = 3), Gram + cocci (N = 10), ***Enterobacteriaceae (N = 13), Gram + cocci (N = 36), ****Gram + cocci (N = 2).

Conclusions: In our hands, for secondary sepsis and catheter related sepsis, PCR typing gives few additional information. For primary sepsis with unknown origin and for clinically not significant episodes, PCR typing is helpful, particularly in coagulase- negative staphylococci (CNS).

TuP38 Postoperative infection in oral cancer surgery

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Objectives: To clarify the mechanisms of postoperative infection (POI) in oral cancer patients.
Methods: Study 1: 30 oral cancer patients underwent tumor surgery and neck dissection with free flap reconstruction. Ampicillin 1 g was administered from the start of the surgery as prophylaxis. Lymph nodes were harvested from the excised neck tissue. Isolates from the cervical lymph nodes, tumor and postoperative infected wounde were studied microbiologically. Study 2: 10 oral cancer patients were studied the value of surveillance oral, nasal and stool cultures. ABPC/Sulbactam 1.5 g was administered from the start of surgery as prophylaxis. Bacteriological specimens were taken from the day of admission to the 7th post operative day.
Results: Study 1: Bacterial translocation was found in 45.8% of lymph nodes. POI was found in 4 cases. In 3 cases, enteric bacteria isolated from POI were also found in the lymph nodes or the tumors. Study 2: POI with P. aeruginosa was found in 2 patients. They were not isolated before surgery.
Conclusions: The operative field was colonized by the indigenous flora and enteric bacteria. Those were recovered from both the tumor surface and the cervical lymph nodes. Such colonization might become a source of POI. However, in study 2, preoperative surveillance culture could not predict the bacteriology of POI.

TuP39 The influence of vaginal microflora on conception after assisted reproductive technology

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Objectives: There is growing evidence that the pathogenic effects of bacterial vaginosis may not be confined to the lower genital tract. Possible associations with infertility and effects on fertilization and implantation were studied in patients undergoing in-vitro fertilization and embrion transverse (IVF ET) treatment.
Methods: During primary examination vaginal microflora was tested in 366 infertile women. It was 1 month before oocyte aspiration. High vaginal swabs were assessed by Gram staining.
Results: 106 of 366 (29%) women had bacterial vaginosis (BV), 22 patients (6.5%) had intermediate microflora (IM) and in 27 cases (7.5%) vaginal candidosis (VC) was observed. Normal microflora was only in 211 cases (57%).

From 366 women - 264 were underwented the procedure of IVF ET. In this women BV was observed in 30.7%, IM in 6% and VC in 6%. All patients had not any clinical simptoms of BV or VC.

There were difference in pregnancy rate after IVF ET between the patients with normal conditions of vaginal ecosystems and with dischanges. Women with normal vaginal flora had pregnancy in 19.3% (29/151), patients VC or IM in 12.5% (both 2/16), and patients with BV had pregnancy only in 7.4% (6/81). Diference between women with normal flora and BV was significant ($(p < 0.01; t = 3.3)$).
Conclusions: Infertile women have more often the disorders in vaginal microflora and it influence on conception. BV lead to failure of infertility women treatment by IVF ET. This may be result of violetion in implantation. We think that unnormal microflora cause the asyptomatic inflammation in endometrium. Infertile women need the screening for vaginal microflora and correction of BV or VC before IVF ET for increase of conception probability, prevention of miscarriages and preterm delivery.

TuP40 Scottish Antimicrobial Resistance Surveillance (SARS) – The first year

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Objectives: To set up a voluntary Alert organism surveillance system in Scotland, making use of routinely generated susceptibility data.
Methods: In October 1998, SARS was initiated. Currently 20 of 25 principle Scottish laboratories participate by sending regular, manual reports to the Scottish Centre for Infection and Environmental Health (SCIEH) for compilation, feedback to the laboratories and publication in the SCIEH weekly report. The laboratories make use of their routinely used methodology which is generally a modified Stokes method, although 6 laboratories use semi-automated methods. A list of 15 Alert organisms has been established.
Results: Data were collected for haemolytic *Streptococci* resistant to penicillin, *S. pneumoniae* resistant to penicillin and the macrolides, *Enterococci* resistant to the glycopeptides and high level aminoglycosides, *Enterobactericeae* resistant to the 4-quinolones and carbapenems as well as those which

produce ESBLs, coagulase negative *Staphylococci* resistant to the glycopeptides, *S. aureus* resistaht to vancomycin and *Salmonella/Shigella* resistant to the 4-quinolones. Notable data include low numbers of penicillin resistant pneumococci and ESBL producing *Enterobactericeae* although few laboratories screen for the latter. There were particularly high levels of *Enterobactericeae* resistant to 4-quinolones and *Enterococci* resistant to high level aminoglycosides. Geographical spread of isolates was not uniform.
Conclusions: The fear that Scotland may have had a significant problem with penicillin resistant pneumococci was unfounded. The high levels of *Enterobacteriaceae* resistant to 4-quinolones have prompted further investigations into this problem.

TuP41 The role of anaerobic bacteria in male infertility

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Objectives: To investigate the role of anaerobic bacteria in infections leading to male infertility, and the direct in vitro effects of anaerobic bacteria isolated from the expressed prostatic secretion (EPS) on normal motile spermatozoa.
Methods: Complex andrological examinations, including case history, physical examination, prostate sonography and semen analysis, were performed on 1447 infertile male patients. Besides the routine microbiological testing (aerobic bacteria, fungi, *Mycoplasma/Ureaplasma, T. vaginalis,* and *C. trachomatis*), EPS and semen sampes were cultured anaerobically for 6 days. The CFU/ml of samples were evaluated semiquantitatively. Serum levels of FSH, LH, prolactin and testosterone were determined. During *in vitro* testing of the effects of anaerobic bacteria on normal, motile spermatozoa, the motility and the appearance of deformed forms were followed by microscopy for 24 h.
Results: 497 of the infertile 1447 men had infections without other disorders. 387 of the 497 displayed chronic prostatitis and 32% (126/387) gave positive culture results for anaerobic bacteria ($\geq 10^6$/CFU). Altogether 673 anaerobic bacteria were isolated, i.e. an average of 5.3 anaerobic bacteria/specimen, and only 71 aerobic bacteria (0.6 bacteria/specimen). The most prevalent Gram-negative anaerobes were: *Prevotella* (84) *Porphyromonas* (79), *Bacteroides* (72), *B. ureolyticus* (63) and *Fusobacterium* (63) spp. 68 (54%) of the sexual partners of these chronic prostatitis patients had a typical bacterial vaginosis (BV) flora in the vaginal fluid. Different anaerobic bacteria isolated from these patients significantly decreased the motility of the normal sperms *in vitro*.
Conclusions: A mixed anaerobic bacterium flora similar in composition to the BV flora may cause chronic prostatitis and male infertility.

TuP42 Antibiotic consumption and development of resistance in intensive care units

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Objectives: To established a correlation between antibiotic consumption and development of resistance at high risk areas like Intensive Care Units (ICU).
Methods: Data on consumption of antimicrobials at the University Hospital and in its two ICU for adults were analyzed and correlated with the resistance of the seven most isolated bacteria (*E. coli; Enterobacter* spp, *Klebsiella* spp, *P. aeruginosa, S. aureus, CNS and S. pneumoniae*) in these units.
Results: Overall consumption of antibiotics was lower than reported for other centers, and decreased from 1996 to 1998. However use of newer broad-spectrum antibiotics increased. Consumption of antimicrobials varied between the two units. The surgical ICU had the lowest overall antibiotic consumption, but the highest relative resistance for *P. aeruginosa* and CNS. Positive results of the correlation analysis between antibiotic consumption and the resistance of the seven most frequent isolated bacteria were noted for *E. coli:* resistance to cephalothin and consumption of cephalosporins ($r = 0.80$, $p = 0.01$); *Klebsiella* spp: resistance to co-trimoxazole and consumption of co-trimoxazole ($r = 0.70$, $p = 0.04$); *P. aeruginosa:* resistance to piperacillin and consumption of piperacillin ($r = 0.78$, $p = 0.02$) and betalactams ($r = 0.78$, $p = 0.02$), resistance to ceftazidime and consumption of betalactams ($r = 0.90$, $p = 0.002$), resistance to ciprofloxacin and consumption of ciprofloxacin ($r = 0.78$, $p = 0.02$).
Conclusion: Based on these surveillance data, correlation of antibiotic consumption and resistance depended on bacterial species and could be established in ICUs for cephalosporins, penicillins, fluoroquinolones and co-trimoxazole, but not for aminoglycosides or macrolides.

TuP43 Evaluation of bacterial cultures of trauma patients admitted after the August 17th 1999 and November 12th 1999 earthquakes

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After the August 17th earthquake 607 trauma patients were admitted to our hospital and 379 were hospitalized. Amputations and fasciotomies were performed on 8 patients, amputations were performed on 9 patients and fasciotomies were performed on 20 patients. A total of 50 fasciotomies of different segments were performed on 28 patients. 174 cultures from 51 (13%) of hospitalized patients were received. 56 (32%) were wound cultures. 43 (25%) were urine cultures. 49% of total cultures remained sterile. Gram(−) bacteria were cultured in 84% of positive cultures (Predominantly: Klebsiella spp, Pseudomonas spp., Acinetobacter spp.). 29% of wound cultures remained sterile. Gram(−) bacteria were cultured in 84% of positive cultures (Predominantly: Pseudomonas spp., Klebsiella spp., Enterobacter spp.).

After the November 12th earthquake 107 trauma patients were admitted and 64 were hospitalized. 3 amputations and 2 fasciotomies were performed. 70 cultures from 44 (69%) of hospitalized patients were received.41 (60%) were urine cultures, and 27 (39%) were wound cultures. 74% of total cultures remained sterile. Gram(−) bacteria were cultured in 62% of positive cultures (Predominantly: Klebsiella spp., Acinetobacter spp., E. coli). 69% of wound cultures remained sterile. Staphylococci were dominant in positive cultures.

There was a flow of patients to our hospital especially after the first earthquake, orthopaedists and surgeons were confronted with a high workload. Relatively more fasciotomies and surgical procedures were performed after the first earthquake therefore infection rates were higher.

TuP44 Clinical course of early neuroborreliosis (NB) on endemic areas of New York State (NYS) and East Poland (EP)

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Objectives: Clinical picture comparison of early NB and changes in cerebrospinal fluid (CSF) of patients from NYS and EP.
Methods: Group I (NYS)- n = 15 composed of patients enrolled to study in SUNY at Stony Brook, citizens of NYS. Group II (EP) n = 17 composed of patients treated in Dept. of Neuroinfections, Medical Academy of Białystok Poland. Antibodies in serum and CSF were performed using ELISA kits, Borrelia Recombinant IgG, IgM Biomedica Austria.
Results:

Clinical form of NB	Cranial neuropathy (%)	Meningitis (%)	Radiculo-neuritis (%)	Others (%)
Group I (NYS)	53.3	40	20	O
Group II (EP)	11.7	70.5	20	20

CSF	Protein (mg%) x ± SD	Cytosis (cell mm^{-3}) ± SD	Glucose (mg%) ± SD
Group I (NYS)	57.2 ± 35	51 ± 54	61 ± 11.8
Group II (EP)	86.5 ± 63.3	58.25 ± 72.7	57.9 ± 6.5

Analysed acute NB in group II the most often had form of meningitis, despite to group I, where cranial neuropathy were dominating. Patients from EP presented more intensive inflammation changes in CSF, comparing with patients with NYS.
Conclusions: There are differences in clinical course as well as expression of inflammation changes of CSF parameters mong patients from endemic areas of NYS and EP.

TuP45 General and neurological symptoms in the course of erythema migrans (EM) of patients of New York State (NYS) and East Poland (EP)

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Objectives: To compare the clinical features of EM between two endemic areas NYS and EP.
Methods: Group I n = 27, citizens of NYS, USA presented with EM, involved into study in SUNY at Stony Brook. Group II n = 25 patients of Dept Neuroinfections, Medical Academy, Białystok, Poland. Study based on self repeat questionnaires form (subjective complains estimated by patient, using score 0–3).
Results: Patients in group I in compare to group II presented significant more expressed presence general symptoms as fever ($p < 0.0004$), stiff neck ($p < 0.0001$), headache ($p < 0.0001$), fatigue ($p < 0.00001$), mood disturbances ($p < 0.007$), concentration problems ($p < 0.03$), chills ($p < 0.001$). Patients in this group presented significantly more often subtle signs of nervous system as sleep disturbances ($p < 0.02$), limb pins and needles, numbness or weakness ($p < 0.075$), confusion ($p < 0.01$). This symptoms had influence on decreased occupational ($p < 0.001$) and social ($p < 0.0001$) activity.
Conclusions: There are essential differences in frequency of some general and neurological symptoms in early localised Lyme disease -EM on endemic areas of NYS and east Poland. Patients from NYS presented stronger expressed general complains and some neurological symptoms comparing with patients from EP. The differences might be caused by different genospecies of *B. burgdorferi*, intermediate hosts, temperature and humidity, as well as some factors in saliva of different ticks transmitted *B. burgdorferi* in NYS *(Ixodes scapularis)* and EP *(I. Scapularis, dammini, persulcatus)*

TuP46 Infections and antibiotic usage at a county hospital in Norway

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Objectives: To study the impact of infections on antibiotic (ab) usage and to assess different issues in ab treatment of infections in medical and surgical wards.
Methods: In 1998 and 1999 several one-day prevalence registrations of infections and ab treatment were done in general medical and surgical units. During two 15 weeks periods (I: Oct 97 to Jan 98 and II: Oct 98 to Jan99) the infections treated with parenteral ab and peroral cephalosporins or fluoroquinolons were registered prospectively in 3 medical and 3 surgical units. The following data were analyzed: patient data, infections treated, ab used, duration of treatment and hospitalization.
Results: When comparing medical and surgical patients prevalence studies showed (given as median values and ranges) that 32% (22–36) vs. 14% (9–15) had an infection at any time, 28% (21–32) vs. 12% (10–13) were treated with ab, and 32% (20–50) vs. 43% (39–62) of all ab were administrated orally. In period I, 400 and in period II 403 patients, 18% and 15% of all hospitalized patients resp, were registered. Altogether, 44% of infections treated were respiratory, 21% abdominal, 11% soft-tissue, 9% urinary. Of all antibiotics used penicillin was prescribed in 25%, 2.gen. cephalosporin in 21%, metronidazole in 14%, aminoglycoside 11% and all other < 10%. After cessation of parenteral ab 50% of patients were discharged immediately and 59% were treated orally. 41% of medical and 67% of surgical patients received two or more different ab. In 75% of medical and 81% of surgical patients the empirically started ab were not changed during the treatment.
Conclusions: A considerable part of all patients in medical and surgical wards have infections that have to be treated with parenteral or broad spectrum oral ab. Respiratory and abdominal infections are the most important and may therefore be interesting in regards to intervention strategies. Penicillin is still the most frequently used ab at our hospital.

TuP47 Microbiology of gallbladder diseases in adults during a three years period (1997–1999)

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Objectives: The laboratory and clinical study of gall bladder diseases in patients who were submitted open surgery during the years 1997–1999.
Methods: Bile specimens collected from 53 patients (30 women and 23 men) aged 42–94 years (median 74) during open surgical operation were examined. The specimens were cultured on appropriate media for aerobic and anaerobic microorganisms. The identification of the isolated microorganisms was carried out by standard methods and by API systems (bioMerieux). The susceptibility testing was performed by disc diffusion method.
Results: The reasons of admission of the patients were: gallstone disease (21), empyema of the gallbladder (13), cholecystitis (13) and cancer (6). Microorganisms were isolated from 71.7% of the specimens. From a total of 62 microorganisms, 61 strains were aerobic and only one anaerobic. The most frequent isolated bacterium was *E. coli* (27.4%), followed by *Enterococcus faecium* (14.5%), *Coagulase Negative Staphylococci* (11.3%), *E. faecalis* (6.5%), *Pseudomonas aeruginosa* (4.8%), *Klebsiella pneumoniae* (4.8%), *Enterobacter aerogenes* (4.8%), *E. cloacae* (3.2%), *K. oxytoca* (3.2%), *Citrobacter freudii* (3.2%) and *Candida albicans* (3.2%). Two-four microbial species were found in 39.5% of positive cultures.
Conclusions: The Gram negative bacteria and mainly the enterobacteriaceae predominated among the patients with gallbladder diseases. Half of the patients with positive culture had cholelithiasis.

TuP48 Vincent's angina and *Arcanobacterium haemolyticum* pharyngotonsillitis in a young adult

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Objectives: The presentation of a case of Vincent's angina with simultaneous *A. haemolyticum* pharyngotonsillitis in an adult.
Methods: Throat swabs were cultured on appropriate media. Gram stained smears were also examined for diagnosis of Vincent's angina. The identification of *A. haemolyticum* was performed by standard methods and API CORYNE (bioMerieux).
Case report: A female patient aged 26 years came to the hospital with the signs and symptoms of pharyngotonsillitis (fever 40°C, purulent exudate, pain), ulcers of the mucosa and cervical lymphadenopathy. The WBCs count was 11,800/μl (90% neutrophils). The Gram stained smears revealed many spirochetes, fusiforms bacteria and Gram positive rods. The diagnosis was Vincent's angina based on clinical signs and symptoms and the Gram strained smears. From the cultures *A. haemolyticum* was isolated susceptible to penicillin and erythromycin. Penicillin V 1.500.000 IU/8 h p.o was administered for 10 days and the patient recovered. On day 30 the pharyngotonsiilitis relapsed and *A. haemolyticum* was isolated from the throat swabs. Erythromycin in dose 500 mg × 3 p.o. for 10 days was administered and she recovered completely.
Conclusions: The Gram stained smears are necessary for suspect cases of Vincent's angina but with simultaneous culture of throat swabs for the possibility of mixed infection. *A. haemolyticum* is a rare causative agent of pharyngotonsillitis and erythromycin is the drug of choice.

TuP49 Meta-analysis of antibiotic ecacy and safety for community acquired pneumonia (CAP), complicated urinary tract infections (UTI), and intra-abdominal infections (IAI)

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Objectives: To determine robust estimates of efficacy and safety of commonly used antibiotics to treat CAP, UTI, and IAI.
Methods: Studies of CAP, UTI and IAI treatment with commonly used antibiotics were identified by searches of MEDLINE & EMBASE databases. Articles in English, French, German, and Spanish from the last 10 years were retrieved and reviewed. Articles meeting pre-set criteria were included in

meta-analysis. Random effects meta-analysis was performed to determine efficacy and safety.
Results: 185 articles were retrieved and reviewed; 56 were excluded as having inappropriate format (e.g., reviews). 129 remaining articles were reviewed for: inclusion of specified antibiotics and infections; defined inclusion/diagnostic criteria; and presence of selected outcomes information. 46 articles met inclusion criteria for clinical, bacterial or overall efficacy: 18 CAP, 19 UTI, and 9 IAI. Average clinical efficacy (i.e., cure or improvement) of studies presenting clinical efficacy is reported in table.

	CAP		UTI		IAI	
	#Subjects (#studies)	Mean eff. (std.) (%)	#Subjects (#studies)	Mean eff. (std.) (%)	#Subjects (#studies)	Mean eff. (std.) (%)
Ciprofloxacin	78 (3)	85.9 (4.0)	285 (8)	88.7 (5.0)	–	–
Ceftriaxone	230 (4)	77.6 (15.8)	139 (3)	93.5 (2.1)	–	–
Cefuroxime	1247 (18)	81.2 (3.8)	254 (2)	90.8 (7.1)	–	–
Pip/tazobactam	–	–	202 (3)	74 (13.3)	204 (.3)	90.6 (4.5)
Ceph + metronid	–	–	–	–	185 (3)	86.1 (5.6)

Conclusions: Few published studies met inclusion criteria in a systematic review. Results among different antibiotics for the same conditions were similar but some substantive differences were seen.

TuP50 Surgical wound infections

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Objectives: Analysis of the etiology of surgical wound infections and sensitivity to antimicrobial agents of bacteria isolated from patients hospitalised in the surgical wards in 1999.
Methods: Clinical samples comprised swabs from surgical wounds of 436 patients after abdominal surgery (apendectomy, cholecystectomy, hemicolectomy) and after vascular transplants. Isolated microorganisms were identified with the use of API system (bioMerieux). Sensitivity to antimicrobial agents was assayed by means of a disk-diffusion method and E-tests.
Results: Out of 436 samples 819 isolates have been cultured, comprising 740 aerobic bacteria, 55 anaerobic bacteria and 24 yeast-like fungi. Among aerobic bacteria 333 Gram-positive cocci have been isolated, 281 rods of the *Enterobacteriaceae* family and 126 isolates of nonfermenting bacilli. The most frequently isolated microorganisms were: *Staphylococcus aureus* (221 isolates, including 40% strains resistant to methicillin), *Escherichia coli* (98 isolates, incl. 22% strains producing extended spectrum beta-lactamases, ESBL+), *Pseudomonas aeruginosa* (83 isolates, incl. 19% resistant to imipenem) and *Enterococcus faecalis* (68 isolates, incl. 29% strains resistant to high levels of aminoglycosides, HLAR strains). All isolates of *Enterobacteriaceae* family were sensitive to imipenem. No resistance to vancomycin was detected among aerobic Gram-positive cocci.
Conclusions: 1. More strict prophylactic measures to prevent surgical wound infections should be implemented. 2. Antibiotic policy should be modified to prevent further increase in resistance of bacterial isolates to antimicrobial agents.

TuP51 Infections of the diabetic foot

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Objectives: Estimation of the etiology of the diabetic foot infections in patients hospitalised in the surgical wards of the Central Clinical Hospital in Warsaw over a two-year period (1998–1999).
Methods: Diagnostic material comprised swabs taken from infected wounds of 92 patients before antibacterial therapy was started. In 56 of these patients followup specimens have been obtained after completion of the antibiotic course as well as during subsequent hospitalisations. Microbiological monitoring in these 56 patients ranged from 3 months to 1.5 years, comprising 2 to 17 swabs from each patient.
Results: From 92 wound swabs taken before the start of antibacterial therapy 195 bacterial isolates were cultured, comprising 48 species: 166 aerobic bacteria, 24 anaerobic bacteria and 5 yeast-like fungi. Most of the infections were multibacterial - two or more microorganisms were cultured from 62% of patients. The most often isolated microorganisms were: methicillin-sensitive *Staphylococcus aureus* (22%), *Streptococcus agalactiae* (10.8%) and *Enterococcus faecalis* (8.2%). From three patients methicillin-resistant *S. aureus* (MRSA) was isolated. The most frequently isolated anaerobic bacterium was *Bacteroides fragilis* (0.03%), while among fungi dominated *Candida albicans* (0.02%). In 36 patients surgical debridement of the wound and antibiotic therapy resulted in cure. In the remaining 56 patients infection persisted despite these measures. Out of 135 swabs taken from these patients 300 isolates were cultured. Among them a high frequency of multiresistant strains can be noticed: MRSA was isolated from 11 patients, ESBL (+) *Klebsiella pneumoniae* and *Escherichia coli* - in 5 patients and *Pseudomonas aeruginosa* resistant to all available antimicrobial agents - in 2 cases.
Conclusions: 1. Gram-positive aerobic cocci are still the main etiological agents of the diabetic foot infections. 2. Microbiological surveillance of these infections is necessary due to the possibility of infection with multiresistant bacterial strains.

TuP52 Detection of *Leptospira interrogans* in human and animal samples using polymarase chain reaction

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Leptospirosis caused by a spirochete is one of the most common zoonoses in domestic and wild animals. From animal urine in soil or water, the bacteria may cause human infections through abrased wounds, mucosa, conjuctiva, or via swallowing contaminated water. Five to ten percent of *leptospirosis* cases are fatal, causing fever, hemorrhage, jaundice and acute renal failure (Weil's syndrom). There are two species of *Leptospira: L. interrogans* (pathogenic species) and *L. biflexa* (non-pathogenic or saprophytic species). Routine diagnostic methods for differentiation of these species including bacterial isolation, serological methods (microagglutination, ELISA) and biological examination are complicated and time-consuming (biological examination requires up to three weeks). Here we report differential detection of pathogenic serovars of *L. interrogans* by PCR and comparison of this method with serological methods. We used specific primer sets for 16S RNA genomic regions and optimized nested PCR conditions. DNA samples were taken from 15 different of serovars of *L. interrogans* from bacterial cultures, urine, blood, and tissue samples from experimentally infected animals. DNA was isolated by a rapid method using silicone carrier, which simplified the procedure without decrease in sensivity. Using of "hot start" PCR with anti-Taq DNA polymerase monoclonal antibodies allowed us to increase sensitivity up to 10 fg of DNA and to eliminate false-positive results. The biological samples (60 samples of tissue from golden hamster, 25 samples of blood and urine from dogs, 83 samples of blood from pigs and 6 human samples of blood and urine) were tested by both PCR and serological methods. The research showed high correlation between the data sets obtained by the PCR and serological methods.

However, PCR allowed to detect the leptospira as early as on day 2 post infection. Thin PCR proved a simple and rapid test suitable for routine application in medicine for earn diagnostics of pathogenic leptospira.

TuP53 Role of early aspiration in the modern management of Focal Intracranial Suppuration (FIS)

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Objectives: We assessed the value of aspiration either by stereoatactic biopsy or puncture in the management of FIS.
Methods: Revision of all cases of Iris in our Institution since 1989. Clinical and microbiological data, diagnostic yield and the need for cranial surgery were analysed.
Results: There were 33 FIS, 23 (69.7%) were men and the mean age was 47.9 years. Thirty one were brain abscesses and 2 subdural empyemas. Eleven were post-surgical and the remaining were primary (5 otic, 4 paranasal sinusitis, 2 odontogenic, 2 hematogenous and 6 of unknown focus). Three patients had multiple abscesses. Glasgow score at entry were 10–13 in 9, and

< 10 in 4. Five of 31 (16.1%) patients died. Diagnostic and therapeutic aspiration was done in 29 patients and 3 required craniotomy. Cultures were positive in the 26 of 28 patients not treated with antibiotics and were negative in the 5 patients previously treated. *Streptococci* (11/26) followed by *staphylococci* (6/26) were the most frequently isolated species. In 10 of 26 the infection was polymicrobial, with anaerobes in 9. In 23 instances the aspiration was guided by ultrasound or without guidance. In 6 we used stereoatactic puncture and of these we had positive culture in 83.3% compared with 77.7% in the other techniques.

Conclusion: Diagnostic aspiration of FIS guides antibiotic therapy and establishes immediate drainage of the abscess. It the definitive procedure of the majority of cases. In the univariant analysis, a Glasgow score < 10 predicts mortality with a RR of 5.5 and concomitant meningitis with a RR of 2.3. Stereoatactic biopsy has good microbiological results, permits correct drainage and is specially interesting in deep and small abscess.

TuP54 Vaginal microecology in postmenopausal women

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Objectives: To study peculiarities of vaginal microecology in women with urogenital disorders in postmenopause.

Methods: 100 patients were studied, menopause duration 1–19 years. Complex microbiological investigation including cultural tests and microscopy of Gram-stained vaginal smears was used for assessment of vaginal microecology.

Results: Four variants of vaginal microecology were found in 37 women with Postmenopause duration of 1–5 years. Normocenosis was diagnosed in 23 (62.2%): common moderate microbic contaminant in vaginal discharge with the prevalence of lactobacteria (6–7 lg CFU/ml). Lactobacteria were found in association with opportunity microorganisms (OM) the titre of which was low (< 3 lg CFU/ml). Vaginal epithelium was presented by cells superficial layers (rarely by intermediate). There were 10 cases (27.0%) of bacterial vaginosis (BV), 3 senile colpitis (SC) (8.1%), 1 *Streptococcus gr.B-vaginitis*. Out of 36 women with postmenopause of 6–10 years normocenosis was found in 13 (36.1%), 18 (50%) had SC, 5 (13.9%) had BV. Intermedium and parabasal layers of epithelium were typical for SC as well as scanty microflora with facultative anaerobic OM 2–4 lg CFU/ml prevailing. SC rate was 74.1% in 27 women with postmenopause of 11–19 years. In 25.9% the status of microcenosis was close to normocenosis: lactoflora titre decreased to 5–6 lg CFU/ml. OM titre didn't exceed moderate values.

Conclusion: In most of women with postmenopause of 1–5 years vaginal microecology corresponds to the criteria of normal reproductive age. In women with longer postmenopause (6–19 years) SC signs were detected in 50–74%. Total number of microflora decreases dramatically, *COS, Coliform bacteria, Streptococcus B and D* dominating.

P:4/4 – Other bacterial infections - II

TuP55 An audit of anti-microbial use in an acute medical admissions unit

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Objectives: To ascertain documentation of clinical evidence of infection and the correlation of anti-microbial therapy with local guidelines.

Methods: The case notes were reviewed of 121 admissions to the acute medical admissions unit (AMAU) who were commenced on anti-microbial therapy. The case notes were examined for documentation of the following features of infection included; 1. Clinical Symptoms (fevers, chills, rigors or myalgia), 2. Temperature > 37.9C or < 36C, 3. Tachycardia > 90/min, 4. Tachypnoea > 20/min and 5. Leucocyte count of > 10 or < 4. Reasons for commencement of parenteral therapy rather than oral were recorded and plans for changing i.v. to oral therapy.

Results: The number of patients receiving antimicrobial therapy and by which route is shown in Table 1.

Features of infection	Oral therapy	IV therapy	Total treated
0	19 (16%)	17 (14%)	36 (30%)
1	19 (16%)	10 (08%)	29 (24%)
2	12 (10%)	17 (12%)	27 (22%)
3	1 (1%)	20 (17%)	21 (18%)
4	1 (1%)	7 (6%)	8 (7%)

In 32% of patients there was no clear reason why intravenous therapy was used instead of oral. In only 5 patients (7%) of those thought suitable for intravenous to oral switch according to local guidelines was this possibility mentioned in the case notes.

Conclusions: 30% of patients commenced on antimicrobial therapy showed none of the signs of bacterial infection used. In one third of patients started on intravenous therapy there was no clear reason to do so. Planned switch therapy is poorly documented in the Acute Medical Admissions Unit.

TuP56 Febrile gastroenteritis: Clinical and laboratory findings in a medical department

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Objectives: To specify the pathogens and to evaluate clinical and laboratory findings in patients admitted for febrile gastroenteritis.

Methods: This is a retrospective study of 89 patients (44 men and 45 women, mean age 46 ± 18 years). WBCs, ESR, serum levels of urea, creatinine and electrolytes, stool microscopy examination and culture results were evaluated for all patients. Our analysis included evaluation of the severity of symptoms and duration of hospitalization.

Results: 31.5% of patients had positive stool culture (group A) and 68.5% had negative stool culture (group B). *Salmonella spp.* was the pathogen in 78.6% of the positive stool cultures (PSC). The serotypes of the isolated strains of *Salmonella spp.* were: *S. enteritidis* 9:gm:- (68.18%), *S. typhimurium* 4.5:i:1.2 (9.09%), *S. blockley* 6.8:k:1.5 (4.5%), *S. paratyphi B* (4.5%) and non-typed (13.6%). *Shigella spp.* was isolated in 21.4% of the PSCs. Abundant WBCs in the stool microscopy examination were associated with positive stool culture (sensitivity 96%, specificity 54%). Group A patients presented with more severe ($p < 0.000$) and prolonged ($p < 0.010$) fever and with lower serum sodium levels ($p < 0.046$). Duration of hospitalization was longer in group A ($p < 0.014$).

Conclusion: One third of all patients admitted with febrile gastroenteritis have positive stool culture. The commonest isolated pathogen was *Salmonella spp.* and the commonest serotype was *Salmonella enteritidis*. Patients with positive stool culture presented with more severe symptoms and their hospitalization was therefore prolonged.

TuP57 Leptospirosis presents as acute renal failure

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Leptospirosis is a generalized disease with a wide spectrum of clinical presentations. More than 90% of patients have a mild illness that resolves without treatment. In a minority of cases, leptospirosis presents as a severe multisystemic disease with jaundice, thrombocytopenia, renal failure and aseptic menengitis.

We present a case of near-fatal leptospirosis, with a clinical presentation resembling acute renal failure. Altough acute renal failure has been described in patients with leptospirosis, to our knowledge such a case has not been reported in Turkey.

Case: An 18 year-old man acutely developed headache, fever and petechial rashes all over the body. Evaluation in the emergency department revealed normal serum electrolytes, moderately elevated transaminases and a creatinine level of 3.5 md/dl. Urine specimen obtained during bladder catheterisation had a specific gravity of 1027; tested positively for blood and protein. Patient was admired by infectious diseases department with diagnosis of fever of unknown origin and also observed by nephrology unit.